Annual Summary of Specified Gas Emitters Regulation: 2009

Alberta Government

Alberta's Story: Reducing Emissions from a Global Energy Supplier

Alberta emits about one-third of Canada's greenhouse gases or 233 of 692 Mt.[1]

The province has the highest per-capita level of emissions in the country.

These undisputable facts present Albertans with a significant challenge as the world takes action on climate change. This challenge must be met with immediate and strategic action to start us down the path of reducing provincial emissions.

The reality is Alberta can not wait. We must take action now to transition to a low carbon future where energy resources are produced as cleanly as possible.

It won't be easy. The climate change issue is complex and affects all aspects of society. Jurisdictions around the world are wrestling with the same fundamental climate change question - how do we balance the needs of the environment while having secure sources of energy and a strong economy?

Driving this challenge is the world's growing need for energy. In fact, worldwide energy demand is expected to grow by 45 per cent from 2006 by 2030. And while renewable energy sources such as wind, solar and biomass continue to grow, the International Energy Agency projects that 75 per cent of total world demand in 2035 will still be met by fossil fuels.[2]

Alberta's reliance on coal-fired electricity and our role as a global energy supplier with the third-largest reserves of oil in the world have created a unique emissions profile for our province. Large industrial emitters account for about half of total provincial emissions.

This starting point will require a unique set of actions to ultimately reach the goal of making significant, long-term reductions here at the source. The key regulatory instrument for incenting reductions at large emitters in the province is the *Specified Gas Emitters Regulation* – a unique system in North America.

It requires large facilities to make mandatory emission intensity reductions, invest in alternative actions that reduce emissions elsewhere in the province, or put money towards innovative technology that will enable deep, long-term reductions.

2009 was the second full year of operations for the *Specified Gas Emitters Regulation*. This report details the results for 2009 and for the previous program periods.

[1] National Inventory Report 1990-2010, Environment Canada
[2] Reference Scenario, World Energy Outlook 2011, International Energy Agency

The Alberta Approach

Goals and Policies

The Government of Alberta is committed to reducing provincial greenhouse gas emissions. Alberta's plans are outlined in its 2008 climate change strategy. The strategy builds on what has already been done: implementing the first legislation of its kind in Canada to reduce greenhouse gas emissions, laying out the long-term roadmap to Alberta's 2020 and 2050 reduction objectives.

The strategy reflects Alberta's unique position as an energy supplier to the world and the reality that, for the foreseeable future, the world will continue to rely on Alberta's secure supplies of oil and gas. The strategy also establishes practical, achievable goals for real reductions in greenhouse gas emissions. Instead of setting arbitrary targets, Alberta's approach breaks the problem down into manageable "wedges" for action with corresponding reductions in emissions set for each wedge. Alberta also recognizes that continuous changes and targeted actions will be required as we learn more, achieve positive results, and identify new opportunities and solutions.

Alberta's 2008 Climate Change Strategy commits to taking action on three themes: conserving and using energy efficiently; implementing carbon capture and storage; and greening energy production to transform the way we produce energy and to introduce cleaner, more sustainable approaches to energy production. The strategy also commits to quantitative results:

Year	Goal	Result
2010	Reduce projected emissions by 20 megatonnes	Meet intensity target established in 2002 plan
2020	Reduce projected emissions by 50 megatonnes	Stabilize greenhouse gas emissions and begin reductions
2050	Reduce projected emissions by 200 megatonnes	Emissions reduced by 50 per cent below business as usual level and 14 per cent below 2005 levels

Alberta's provincial *Specified Gas Reporting Program* and *Specified Gas Emitters Regulation* are complementary regulatory components which support the climate change strategy with a focus on the largest sources of emissions in Alberta.

Information gathered under the *Specified Gas Reporting Regulation* is needed to assist both the province and industry in characterizing emission sources and identifying opportunities for emission reductions. The program provides an annual inventory of greenhouse gas emissions from large industrial facilities in the province and provides a platform for smaller facilities to voluntarily report their greenhouse gas emissions. It also assists the government in monitoring the results of greenhouse gas reduction strategies.

The Specified Gas Emitters Regulation also requires facilities to report their emissions but goes further to require improvements in emissions performance.

In addition to these regulations Alberta has made some other significant commitments to reducing greenhouse gas emissions:

- $1.5 billion commitment to carbon capture and storage – three projects being advanced (1 electricity, 2 oil sands related)
- Renewable Fuels Standard – mandates a 5 per cent blend of renewable alcohol in gasoline and a 2 per cent blend of renewable diesel
- Bioenergy grants - $150 Million awarded (leveraged up to $2 billion in private funds)
- Bioenergy producer credit program - $38.6 million paid in first phase (2006-2011) and an additional $490 million budgeted between now and 2015 (of which $249 million has already been awarded)
- $2 billion GreenTRIP – commitment to public transit projects

- Incentives for energy efficiency – being run largely through C3 www.climatechangecentral.com
- Project funding to support technology development through the Climate Change and Emissions Management Corporation.

More information on these initiatives is available on our website (www.environment.alberta.ca)

Specified Gas Reporting Regulation

The Alberta *Specified Gas Reporting Regulation* requires that all large Alberta industrial facilities emitting more than 50,000 tonnes of greenhouse gases in carbon dioxide equivalent (CO_2e) units per year—based on the sum of direct emissions of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perflurorocarbons (PFCs) and sulphur hexafluoride (SF_6)—report their greenhouse gas emissions to Alberta Environment and Sustainable Resource Development. Facilities that do not exceed the 50,000 tonne regulatory threshold may voluntarily report their emissions under the *Specified Gas Reporting Program*.

Specified Gas Emitters Regulation

The *Specified Gas Emitters Regulation* came into force on July 1, 2007 and is an important step in delivering on *Alberta's 2008 Climate Change Strategy*. The new requirement under this regulation for large industry to reduce their emissions intensity by 12 per cent is mandated under a regulation in the *Climate Change and Emissions Management Act*.

The *Specified Gas Emitters Regulation* requires improvement in greenhouse gas emissions intensity. Greenhouse gas intensity is an important performance measure in evaluating emissions performance which looks at the amount of greenhouse gas emitted for each unit of product produced. Greenhouse gas emissions intensity is calculated by dividing the greenhouse gas emissions targeted for reduction by total production over a common time period.

The *Specified Gas Emitters Regulation* requires all facilities in Alberta emitting over 100,000 tonnes of carbon dioxide equivalent (CO_2e) per year to reduce their emissions intensity by 12 per cent below a baseline based on 2003-2005 emissions and production. New facilities, or those facilities that began operation on or after January 1, 2000, and that have completed less than eight years of commercial operation, are required to reduce their emissions intensity by two per cent per year starting in their fourth year of commercial operations. The reduction obligation for new facilities ramps up by two per cent per year until the ninth year of commercial operations when a 12 per cent target is reached. Facilities have several options to meet their emissions intensity reduction targets:

- Improve facility operations and efficiency.
- Pay $15 per tonne of CO_2e into the Climate Change and Emissions Management Fund, which creates a pool of resources to enable additional projects or technology aimed at reducing greenhouse gas emissions in the province or aiding adaptation to climate change.
- Purchase emission offset credits generated from projects not subject to the *Specified Gas Emitters Regulation*. These credits must be from Alberta-based projects that occurred after January 1, 2002.
- Purchase emission performance credits from facilities that are subject to the *Specified Gas Emitters Regulation*. Some facilities may have reduced their emissions intensity beyond their target and may want to sell any extra reduction as a credit.

The regulation target puts a price on greenhouse gas emissions and uses market mechanisms such as emissions trading to ensure that the most cost effective reductions within Alberta are pursued.

Facilities that exceed the 100,000 tonnes CO_2e threshold must satisfy the requirements of both the *Specified Gas Emitters Regulation* and the *Specified Gas Reporting Regulation*. In time, Alberta will move to harmonize the two regulations to ensure easier reporting for facilities. The data collected under the *Specified Gas Emitters Regulation* will be used to update the emissions reported in the *Specified Gas Reporting Regulation* as this data must be verified by a third party and should therefore be of higher accuracy.

July 1 to December 31, 2007 was the first half year of mandatory reductions. During this time, the emphasis was on getting the system up and running. Baseline performance was established, systems were tested for validating and auditing data, and stakeholders were informed about specific requirements.

All subsequent compliance periods are assessed on a full year, ending December 31.

How Baselines are Set

For existing facilities that were operational before January 1, 2000, baseline emissions intensities are established using emissions and production data from 2003 to 2005.

New facilities are required to establish a baseline emissions intensity based on their third through fifth full years of commercial operation.

Annual Compliance

The *Specified Gas Emitters Regulation* has a March 31st compliance deadline. By March 31st each facility subject to the regulation must submit an annual report demonstrating how they have come into compliance with the reduction requirements. These reports must be verified by an independent third party.

Facilities must submit compliance units (actual reductions, Climate Change and Emissions Management Fund payments, offsets or emissions performance credits) which reduce their net annual emissions intensity to their allowed intensity limit. This intensity limit is the facility baseline intensity less the facility's reduction target.

Climate Change and Emissions Management Fund

A unique aspect of Alberta's emissions regulatory system is the Climate Change and Emissions Management Fund. Companies required to meet the provincial reduction target can choose to pay $15 per tonne of CO_2e into the fund for emissions over the reduction target.

The fund is used to invest in projects that support emission reduction technologies and improve our ability to adapt to climate change in Alberta.

For 2009 approximately $63 million was collected through the Climate Change and Emission Management Fund.

The fund is managed by the Climate Change and Emissions Management Corporation (CCEMC) (www.ccemc.ca). The CCEMC is an arm-length organization, independent from government, which is responsible for deciding how to allocate money collected in the fund.

In the first three rounds of funding, $126.2 million was allocated to 27 projects, including:

- Ten renewable energy projects, which received $65.2 million in committed funding;
- Twelve energy efficiency projects, which received $32.9 million in committed funding;
- Two greening fossil fuel projects, which received $23.3 million in committed funding; and
- Three carbon capture and storage projects, which received $4.8 million in committed funding.

Emission Offset Credits

Alberta has created the first regulated multi-sector carbon trading system in North America. The system encourages Alberta farmers, small energy producers, renewable electricity generators, municipalities and many others, to develop emission reduction projects that can create offset credits, which can be sold to facilities that need to meet their reduction obligations under the *Specified Gas Emitters Regulation*.

Alberta offset credits must be created using protocols approved by the province. These protocols are developed in partnership with stakeholders and based on the best available research. The protocols outline how to quantify and verify emission reductions for different types of projects. All credits used to meet the reduction targets must be verified by an independent, qualified third party before they are submitted to the province. Alberta also undertakes an annual audit of a sample of offset projects to improve the overall assurance of the system.

Credits are registered on the Alberta Offset Registry, which is operated by the province in partnership with C3 (carbonoffsetsolutions.climatechangecentral.com)

Emission Performance Credits

Emission performance credits (EPCs) are credits generated by facilities that have gone beyond their mandatory reduction target. EPCs can be banked for use by the same facility in future compliance years or traded to other facilities that still need to meet the reduction target.

2002
Alberta completed a comprehensive provincial climate change strategy *Albertans and Climate Change: Taking Action* outlining commitments to action including industrial regulation.

2003
Alberta signaled its commitment to manage greenhouse gas emissions by passing the *Climate Change and Emissions Management Act*. One of the first actions taken under the new legislation was to develop a mandatory reporting program for large emitters in Alberta.

2004
Large emitters in the province (over 100,000 tonnes of carbon dioxide equivalent a year) were required by law to submit an annual report on their previous year's greenhouse gas emissions.

2007
Alberta passed the *Specified Gas Emitters Regulation*, reinforcing its commitment to regulate greenhouse gas emissions from large emitters. The first compliance cycle was a half-year, from July 1 to December 31, 2007.

2008
Alberta released its climate change strategy, establishing goals for further reductions in greenhouse gas emissions. The strategy commits to taking action on three themes: conserving and using energy efficiently; implementing carbon capture and storage; and greening energy production. By 2050, Alberta will see a reduction of 200 million tonnes from business-as-usual projections.

2008
Alberta committed $2 billion to carbon capture and storage. $1.5 billion of this is being used to develop three large scale pilot projects that will provide valuable information on how to commercialize and deploy this clean energy technology in Alberta to make significant, long-term emission reductions.

2009 Specified Gas Emitters Regulation Results

The 2009 compliance period was a success. Large industrial emitters achieved real emission reductions and the province is continuing to work with stakeholders to learn about how the system is operating and look for ways to make improvements along the way.

Detailed Report

Ninety-seven facilities fell under the *Specified Gas Emitters Regulation* for the 2009 compliance year, which means they previously emitted more than 100,000 tonnes of carbon dioxide equivalent (CO_2e) during a calendar year since 2003 and have completed four years of commercial operation.

These facilities emitted a total of 112.5 million tonnes of CO_2e. This represents approximately 48 per cent of Alberta's provincial greenhouse gas emissions for 2009. Of these emissions 6.7 million tonnes were classified industrial process emissions, 5.0 million tonnes were CO_2 emissions from biomass and 4.8 million tonnes resulted from co-generating electricity and heat rather than simply producing heat. These emissions do not receive a reduction target and are not included in the facility baseline intensity. The remaining total of 96.0 million tonnes of CO_2e were subject to a reduction target.

- Industrial process emissions result from fixed chemical reactions, other than combustion where the primary purpose is not energy generation.
- CO_2 emissions from biomass are considered to be neutral as long as the biomass source is under sustainable management.
- Additional emissions from cogeneration of electricity rather than simply producing heat are not placed under a target to prevent any disincentive to cogeneration.

Business as usual emissions for 2009 are calculated by assuming 2009 production would have occurred at the historic baseline intensity for each facility. This level of emissions is used as a reference against which reductions are required. Business as usual emissions for the period would have been 96.3 million tonnes. Actual emissions were 96 million tonnes reflecting a small overall reduction at facilities compared to business as usual.

For the 2009 compliance cycle of the *Specified Gas Emitters Regulation*, large final emitters owed 9.4 million tonnes of additional compliance once improvements at the facilities and recognition of cogeneration were taken into account. Results indicate that 1.3 million tonnes worth of compliance was submitted in the form of EPCs generated in previous compliance periods. A further 3.8 million tonnes of Alberta-based offsets were purchased and submitted, and $63 million was paid to the Climate Change and Emissions Management Fund (4.2 million tonnes worth of compliance). Figure 1 below summarizes these results.

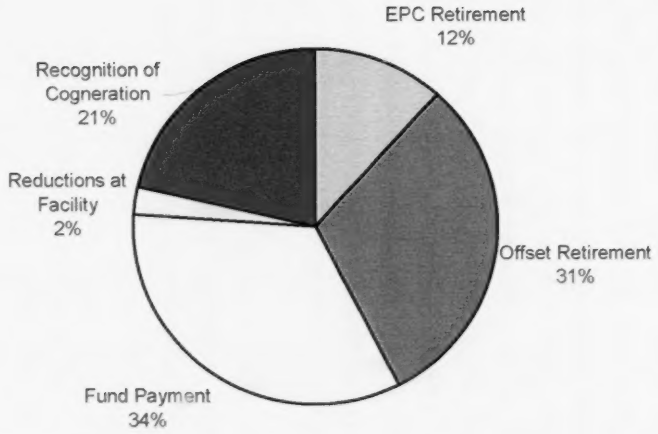

Figure 1: How compliance for 2009 was achieved (12.4 M tonnes)

Reductions at Facility, Cogeneration and Emission Performance Credits

In 2009 facilities made emissions reductions on site versus their baseline performance. Reductions on site which go beyond the required reduction target generate EPCs. A facility's obligation to true up through offset retirement, EPC retirement or Climate Change and Emissions Management Fund purchases may also be reduced or EPCs may be generated through the recognition of cogeneration of heat and electricity.

Reductions on site (289 thousand tonnes) and recognition of cogeneration (2.7 million tonnes), including EPC generation, totaled 2.9 million tonnes CO_2e.

For the purpose of reporting on reductions under this program, reductions are counted in the year they occur, even if EPCs are generated (e.g. all EPCs generated for on site reductions in 2009 are counted towards reporting reductions in 2009, even though they will not be used compliance until later cycles). They are not counted as reductions in subsequent years as they are submitted; however retired EPCs are counted when reporting on compliance action taken by facilities.

In 2009, 1.7 million tonnes of EPCs were generated at 27 facilities. Twenty three facilities submitted a total of 1.3 million tonnes of EPCs for compliance.

Emissions Offset Credits

Alberta has created the first regulated carbon trading system in North America. The system encourages Alberta farmers, small energy producers, renewable electricity generators and municipalities, among others, to develop emission reduction projects that can create offset credits, which can be sold to large final emitters unable to make immediate reductions on site.

The 2009 compliance year saw 29 facilities submit 3.9 million tonnes CO_2e of offset credits from 46 projects across Alberta. See figure 2 and the table below for a breakdown of offsets used by project type.

The majority of offsets came from the reduced tillage and wind power categories.

Project Type	2009 compliance thousand tonnes from offsets
Biofuel Production	15
Waste Diversion to Aerobic Composting	29
Small Scale Hydro	71
Acid Gas Injection	117
CO_2 Capture in Enhanced Oil Recovery	183
Nitrous Oxide Abatement from Nitric Acid Production	215
Energy Efficiency	220
Anaerobic Wastewater Treatment	297
Landfill Gas Capture	320
Biomass Power	345
Wind Power	407
Reduced Tillage Agriculture	1,607
TOTAL	**3,826**

Rounded to the nearest 1,000 tonne.

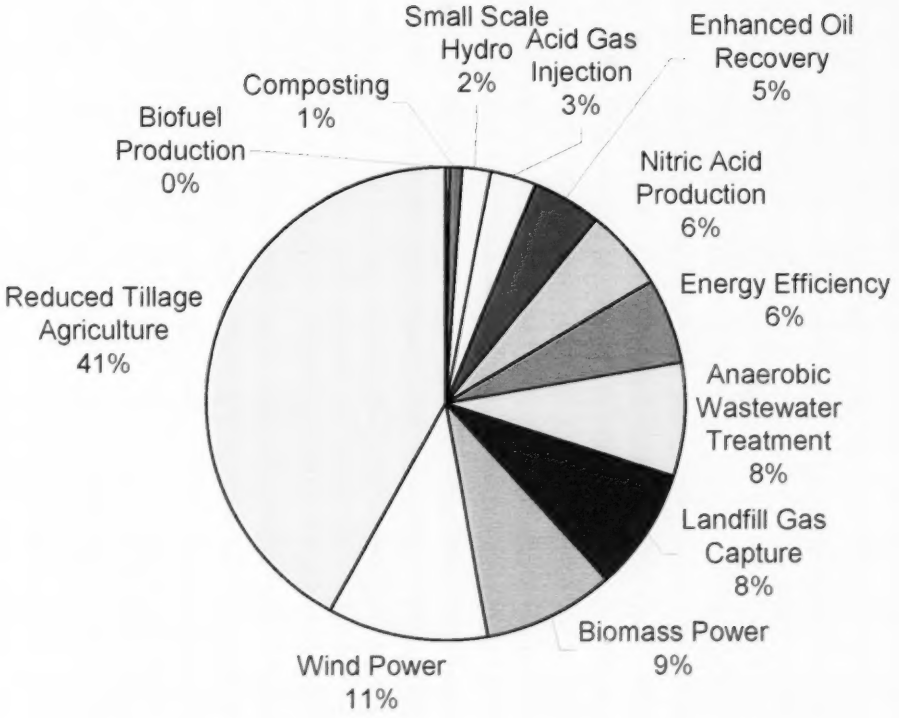

Figure 2: 2009 Offset Retirement by Project Type (3.8M tonnes total)

Results by Sector

2009 compliance outcomes for the facilities are summarized by industry sector below.

Sector	# of Sites	Emissions^ Tonnes CO2e	Tonnes Owed Tonnes CO2e	EPC generated Tonnes CO2e	EPC submitted Tonnes CO2e	Fund Credits purchased Tonnes CO2e	Total Fund Contribution $ (at $15/t)	Offsets submitted Tonnes CO2e
Chemical Manufacturing	8	5,250,000	48,200	136,000	-	6,830	102,450	41,400
Coal Mining	3	489,000	78,100	-	8,270	11,400	171,000	58,400
Electric Power Generation	22	48,800,000	5,210,000	813,000	596,000	1,630,000	24,450,000	2,980,000
Fertilizer Manufacturing	5	1,970,000	182,000	14,400	71,200	85,700	1,285,500	25,000
Gas Processing	30	6,660,000	1,000,000	100,000	102,000	627,000	9,405,000	247,000
Mineral Product Manufacturing	3	546,000*	56,200	-	-	7,300	109,500	48,900
Oil Sands In Situ Extraction	8	11,100,000	1,150,000	104,000	84,500	1,030,000	15,450,000	34,600
Oil Sands Mining and Upgrading	4	18,800,000	1,180,000	-	566,000	303,000	4,545,000	311,000
Petroleum and Coal Products	4	2,970,000*	254,000	-	27,100	171,000	2,565,000	55,400
Pipeline Transportation	4	2,640,000	282,000	-	-	260,000	3,900,000	20,000
Primary Metal Manufacturing	1	239,000	37,900	-	-	37,900	568,500	-
Waste Treatment and Disposal	1	74,100	-	37,700	-	-	-	-
Wood Product Manufacturing	4	474,000	-	490,000	-	-	-	-
TOTAL	**97**	**100,044,000***	**9,479,000**	**1,700,000**	**650,000**	**4,173,000**	**62,595,000**	**3,821,000**

Entries rounded to three decimal places, totals rounded to nearest 1,000 tonnes CO_2e.

* Excludes facilities whose emissions are deemed confidential.

^ Excludes Industrial Process and CO_2 from biomass.

Results show that Alberta has achieved 4.2 million tonnes of emissions reductions in 2009 versus business as usual through reductions on site and offset retirement.

The tables below break down the results for the 2009 compliance period and cumulative totals for all periods of the program up to and including 2009. (All values are rounded.)

The total emissions subject to reduction target is equal to total reported facility emissions less categories which are not subject to target including industrial process emissions, biomass CO_2 emissions and incremental emissions required to cogenerate electricity and heat rather than generating only heat. See figure 3 below.

Emissions	**2009**	**Cumulative Program Totals**
Total emissions from regulated facilities	112.5 Mt	278.3 Mt
- Industrial process emissions	6.7 Mt	18.2 Mt
- Biomass CO_2 emissions	5.0 Mt	12.6 Mt
- Cogeneration electricity emissions	4.8 Mt	11.9 Mt
= Emissions subject to reduction target	**96.0 Mt**	**235.6 Mt**

Required reductions are calculated as the difference between the projection of baseline intensities to the 2009 production levels and the allowed emissions levels for the facilities based on their individual reduction targets. In aggregate this is slightly less than 12 per cent of total emissions subject to reduction target due to new facilities which are still in the ramp up phase of their reduction targets.

Required Reductions	**2009**	**Cumulative Program Totals**
Business as usual emissions at baseline intensity	94.7 Mt	237.0 Mt
Required Reductions	10.7 Mt	27.2 Mt

Required reductions and resulting compliance with allowed emissions intensity levels can come through a number of forms including intensity reductions at the facility, operation of efficient cogeneration plants, retirement of purchased offset credits, retirement of emissions performance credits or payment into the Climate Change and Emissions Management Fund.

Compliance	**2009**	**Cumulative Program Totals**
Emissions savings at facility	0.3 Mt	2.9 Mt
Recognition of cogeneration	2.7 Mt	6.7 Mt
Offset credit retirement	3.8 Mt	7.7 Mt
EPC retirement	1.5 Mt	2.2 Mt
Climate Change and Emissions Management Fund (CCEMF) units purchased	4.2 Mt	12.3 Mt
Total Compliance	**12.4 Mt**	**31.8 Mt**

Each individual facility must meet its emissions reduction target. When total compliance is greater than the total reduction requirement it is because some facilities have gone beyond their required reduction and have generated surplus reductions which may be eligible to become bankable, tradable emissions performance credits.

Emissions Performance Credits Generated	**2009**	**Cumulative Program Totals**
Total compliance	12.4 Mt	31.8 Mt
Less required reductions	10.7 Mt	27.2 Mt
EPCs generated	1.7 Mt	4.6 Mt

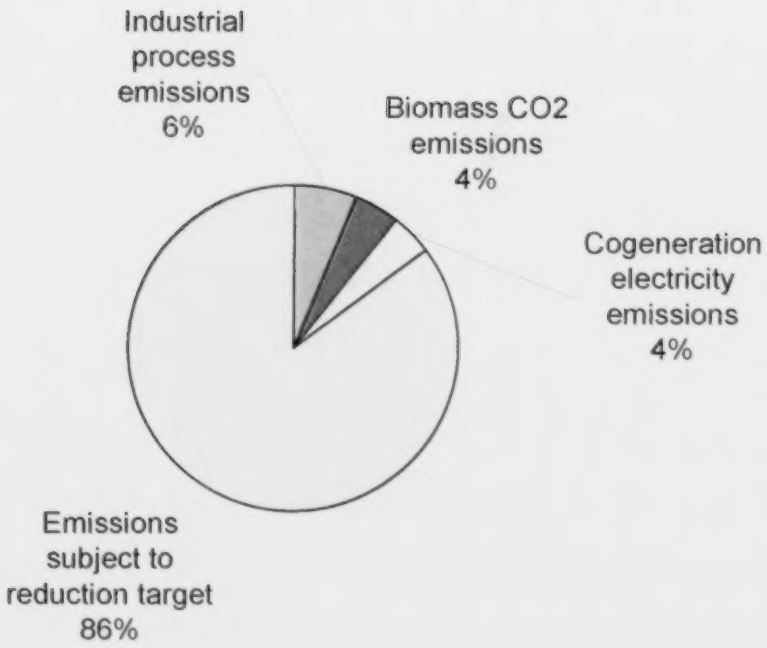
Industrial process emissions 6%
Biomass CO2 emissions 4%
Cogeneration electricity emissions 4%
Emissions subject to reduction target 86%

Figure 3: Emissions at Facilities Subject to the Specified Gas Emitters Regulation (112.5 Mt)

Looking Ahead

The *Specified Gas Emitters Regulation* represents the following foundational elements of a prudent emission regulatory regime in Alberta:

- Mandatory reduction targets for large emitters
- Price on carbon
- Regulated carbon offset credit market
- Dedicated, annual funding for emissions reduction projects

While Alberta is taking significant action, these are only our first steps. We realize that more needs to be done.

We'll continue to refine our system so that it drives innovation and emission reductions at the source in ways that make sense given our emissions profile and best opportunities for success.

As an energy exporter and the largest provincial emitter in Canada, what happens outside the Alberta border could be seen as just as important as the actions we take within our province. We will continue to work closely with the federal government on developing a cohesive national climate change policy. We will monitor international climate change negotiations and continue to be a part of the conversation where possible.

How the world moves forward on climate change will play a crucial role in helping to inform exactly what the future direction of Alberta's regulations will be. Our priority is to ensure our industry remains competitive and to invest in emission reduction solutions here at home.

Alberta's contribution to global efforts rests with our belief that clean energy technology is key to global emission reductions. We are investing heavily in clean energy technology, through money generated by the *Specified Gas Emitters Regulation* and other commitments such as $1.5 billion for carbon capture and storage.

While this report focuses on the *Specified Gas Emitters Regulation* and large industrial emissions sources, the Government of Alberta continues to develop initiatives that support the climate change strategy across all levels of activity within Alberta.

Climate change is one of the biggest public policy challenges of our time. We need to change the way we think about and use energy and other emission intensive goods and services. Albertans will need to alter consumption patterns, and consider our responsibilities in a global context.

Overcoming that challenge will require something from all of us.

Appendix A: Alberta's emissions profile

Large industrial facilities emitting more than 100,000 tonnes of greenhouse gases in a year which are subject to the *Specified Gas Emitters Regulation* are responsible for about 48 per cent of Alberta's total greenhouse gas emissions. The distribution of emissions from large final emitters in Alberta is shown in figure 4 below by sector.

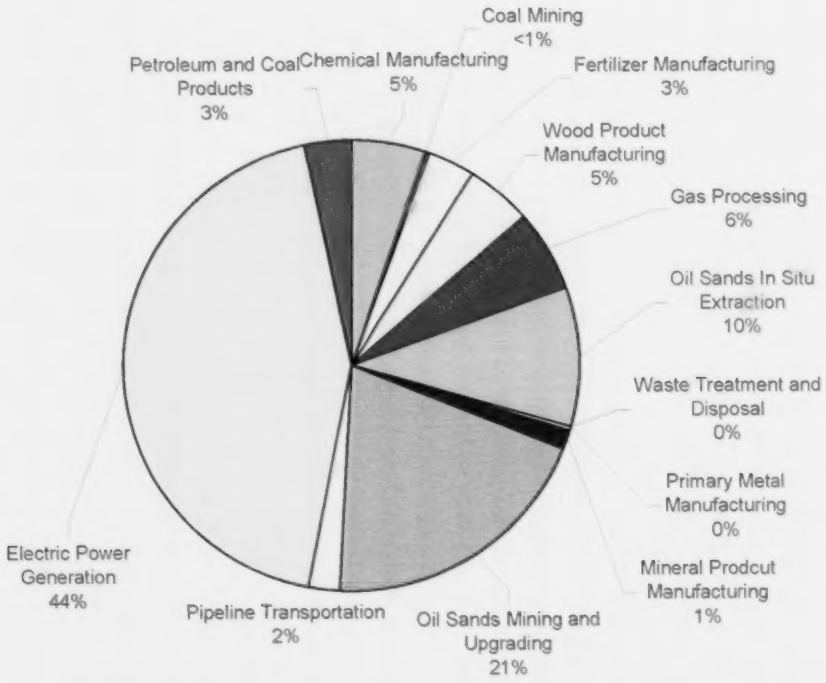

Figure 4: 2009 Regulated Emissions by Sector (112.5 Mt total)

Appendix B: Facility Results to Date

The spreadsheet which accompanies this document entitled *2009 SGER Compliance Summary.xls* summarizes individual facility performance for the 2007 half year compliance period as well as the 2008 and 2009 full year compliance periods.

Baseline intensity is the assigned baseline emissions intensity for the facility in that period. In certain circumstances baselines require updating over time. In such cases the baseline emissions intensities may be different for different compliance periods.

Intensity is the calculated intensity for the compliance period and includes recognition of cogeneration where applicable.

Emissions are total annual emissions in tonnes of CO_2e. This excludes industrial process emissions and CO_2 emissions from biomass. Total annual emissions may differ from values reported under the *Specified Gas Reporting Regulation* due to differences in facility definitions used under the two systems and due to the exclusion of industrial process emissions and CO_2 emissions from biomass.

True up refers to the tonnes of CO_2e that had to be submitted for compliance in the form of Climate Change and Emissions Management Fund credits, offset credits or retired emissions performance credits. A negative value indicates emissions performance credits were generated.

Disclaimer:
The information contained in this report has been obtained from several different sources. Effort has been made to ensure its validity, but the authors cannot guarantee the correctness of data. Decisions based on the contents of this report are solely at the discretion of the reader. The greenhouse gas data collected under the *Specified Gas Emitters Regulation* is current as of February 29, 2012. Emissions values have been rounded. All emissions numbers reported in this document are in carbon dioxide equivalent units.

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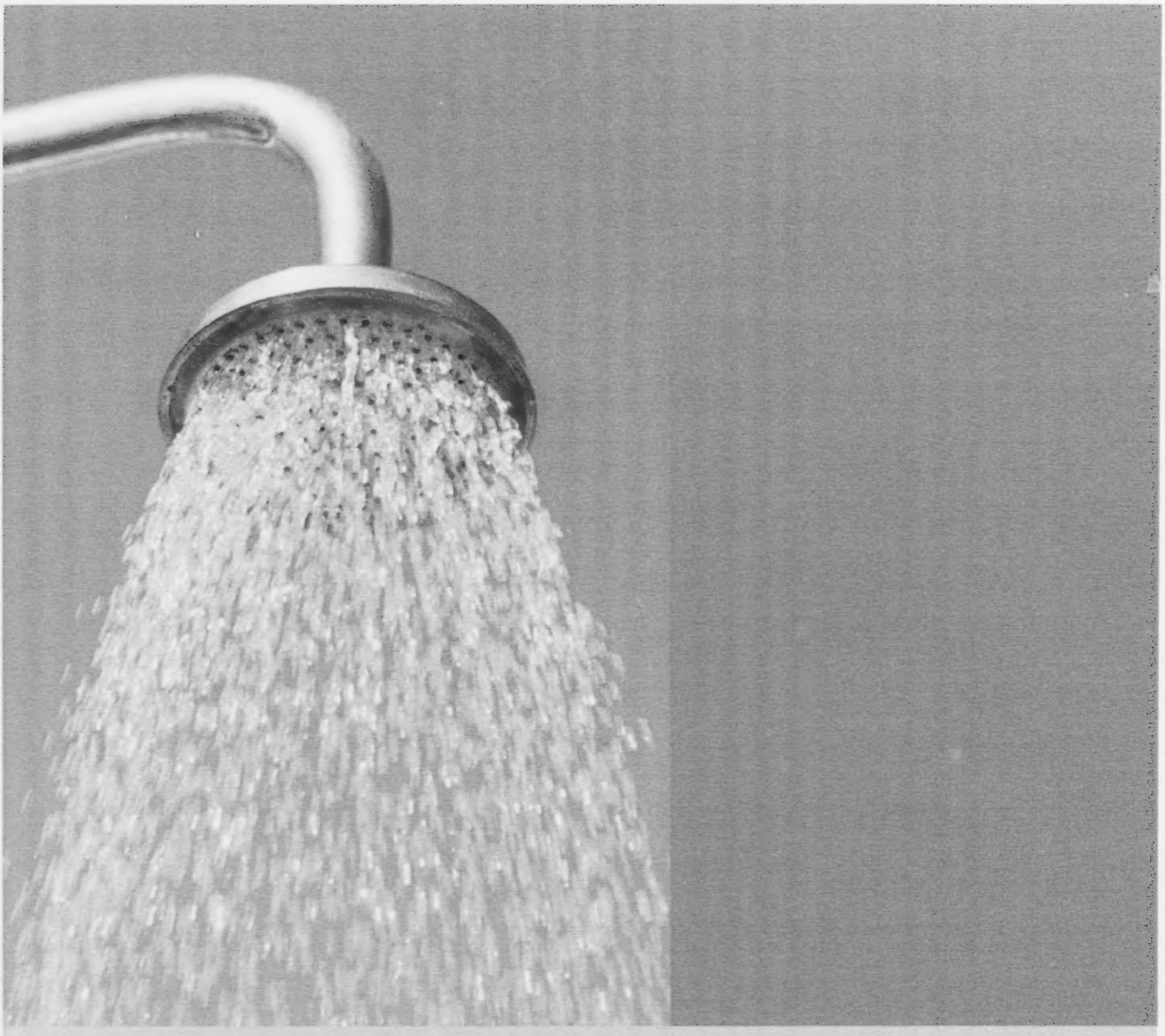

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